AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for generating $O1^+$ and/or $O4^+$ oligodendrocytes, said method comprising

growing neurosphere (NS) cells in a culture medium that promotes preferential differentiation of NS cells into $O1^+$ and/or $O4^+$ oligodendrocytes,

said culture medium comprising one or more gp130 activators selected from the group consisting of CNTF, oncostatin-M (OSM), IL-6, IL6R/IL6 chimera and IL-11, and

wherein said culture medium specifically enhances differentiation into the $O1^+$ and/or $O4^+$ oligodendrocyte lineage, thereby causing the NS cells to preferentially differentiate along the oligodendrocyte lineage into $O1^+$ and/or $O4^+$ oligodendrocytes.

2. (Cancelled)

3. (Previously presented) The method according to claim 1, wherein the gp130 activator is IL-6.

4. (Cancelled)

5. (Previously Presented) The method according to claim 1, wherein the cells are dissociated NS cells.

6. (Cancelled)

7. (Previously Presented) The method according to claim 1, wherein oligodendrocytes of $O1^+$ lineage are generated.

8. (Previously Presented) The method according to claim 1, wherein oligodendrocytes of $O4^+$ lineage are generated.

9-54. (Cancelled)

55. (Previously presented) The method in accordance with claim 1, wherein said NS cells are human NS cells.

56. (Previously presented) The method according to claim 1, wherein said culture medium promotes myelinating activity.

57. (Previously presented) The method according to claim 1, wherein said growth in said culture medium produces $O1^+$ and/or $O4^+$ oligodendrocytes with large myelin membranes and more aborization, as compared to control NS cells not grown in said culture medium.

58. (Previously presented) The method according to claim 1, wherein only NS cells are present in the growing in the culture medium step.

59. (Previously presented) The method according to claim 1, wherein dissociated NS cells are utilized in the growing in the culture medium step.

60. (Previously presented) The method in accordance with claim 1, wherein said one or more gp130 activators is the only growth or differentiation agent present in the culture medium to cause NS cells to differentiate along the oligodendrocyte lineage into $O1^+$ and/or $O4^+$ oligodendrocytes.

61. (Previously presented) The method according to claim 1, wherein the gp130 activator is IL6R/IL6 chimera.